

MASTER CARPENTERS' SOCIETY.—NEW BUILDING ACT.

A VERY numerous meeting of the above society was held at the 'Freemasons' Tavern on Wednesday last, to receive the report of the committee upon the new Buildings Act. The chairman, Mr. H. Biere, having read the report of the committee, the same was unanimously received and adopted.

The thanks of the society were then voted to the committee, with a request that they would continue their valuable services and endeavour to urge upon Government, or by petitions to Parliament, as they may deem necessary, the importance of the several alterations in the new act, as set out in the appendix to the report, together with some other alterations, as suggested by the meeting.

PUBLIC IMPROVEMENTS.

We beg to draw the attention of our readers to the following report on the subject of the smoke nuisance, addressed by Mr. A. Booth to the new commission appointed by her Majesty for inquiring into the health of towns and the causes of their deterioration. We understand that the subject will be continued in a series of similar reports by the author. It is addressed to Henry Hobhouse, Esq., the Secretary of the Commission, through Sir James Graham, the Secretary of State for the Home Department.

Willow Cottage, Putney Common, Surrey, May 16, 1843.

SIR,—Presuming that the new commission appointed by her Majesty, for inquiring into the health of towns, of which you are the secretary, will undertake the investigation of all the evils with which crowded towns and vicinities are affected, with the means offered for their prevention, I am induced to draw the attention of the members of her Majesty's commission to some of the evil effects of smoke, and the means which are in existence for its suppression, confident that from the importance of the subject, the same will be one of the earliest matters which will come before their consideration.

Having paid much attention to the various departments of chemical investigation connected with public health and personal comfort, I have arrived at the conclusion that there are few which claim more attention than the subject of smoke, and that whilst means exist for its prevention, on no subject is legislative interference more required, on account of the unprotected state in which the sufferers from the nuisance are left from the present imperfect state of the law. Such smoke arises chiefly from the chimneys of the furnaces, manufactories, and other establishments with which every thickly-populated district abounds, and from those in the suburbs, which have extended with the increase of population. The effect of this smoke, in a medical point of view, there can be no doubt, is very injurious, as by the sooty particles depositing upon the skin, they interfere with its natural functional action, whilst their inhalation into the lungs is of the worst effects in producing pulmonary consumption, and further to the aggravation of such and other constitutional disorders. In another point of view, its effect upon the general health of the community is very conspicuous, as by soiling their furniture and clothes, and injuring their property, it renders the poorer classes, who are most exposed to its evil influence, less attentive to their cleanliness and personal appearance, and as a consequence, to the means for the preservation of their health.

Although no manufactory of a general or exclusive character is carried on in the metropolis, there are several which, from the quantity of smoke that is emitted from the chimneys of their furnaces, inflict considerable mischief in the different districts in which they are situated. As the principal of such manufactories and establishments, may be enumerated, gun-works, breweries and distilleries, soap-boilers and tallow-chandlers, sugar-refineries, engineering establishments and foundries, bell and saw mills, paper-manufactories, dye and

furnaces, limekilns, silk and flour mills, and for a variety of other processes. These establishments are distributed all over the metropolis, whilst the smoke which they emit greatly affects the different districts in which they are situated. In some of the more densely-populated and ill-ventilated districts, the effects are probably less apparent to the senses, though they add materially to the evils under which the inhabitants labour, and equally affect the sanitary condition of the inhabitants. Confined and close districts, in addition to other evils, thus become the repository of dirt distributed throughout the atmosphere, where, however, its effects may not be so sensibly traced as in districts where proper ventilation and the cleanliness of the inhabitants are better attended to. Such are the sites in which the five leading descriptions of establishments are principally situate; but the extension and enlargement of the metropolis have recently filled with houses and inhabitants many of those districts which were formerly, and indeed, even until lately, considered suburban. In many of these, manufactories have been established in places which a few years ago were almost a waste, but are now thickly populated. As an instance, may be cited the comparatively limited district near the river Thames, adjacent to the Belvedere-road, in Lambeth (better perhaps known as Pedlar's-acre, and Narrow-wall), extending to the York-road, and parts in its proximity, where many houses of a superior description, tenanted by persons of a superior rank of life, have been erected. The effects of these are very palpable to passengers, and obnoxious to the surrounding inhabitants. Amongst other chimneys which vomit forth their volumes of dense and black smoke, to the contamination of the atmosphere, deterioration of property, and injury to health, are those from two breweries, two shot-manufactories, six saw-mills, one black lead manufactory, one engineering establishment, two connected with the Lambeth water-works, two flour-mills, one emery, and one India rubber manufactory, two glass-manufactories, two coke-ovens, one limekiln, one lead-factory, &c.: whilst from the circumstance previously alluded to, the district of St. George's in the East is not apparently so seriously affected by the smoke given off by the chimneys attached to the different sugar-refineries. The extension of chimneys attached to the various saw-mills and sugar-refineries adjacent to the Regent's Canal, in the City-road, has seriously depreciated property and injured vegetation in Islington and its vicinity. The banks of the river Thames, from Blackwall to Battersea, and even as far as Richmond, have the last few years been equally affected, as can be testified by the market-gardeners and other growers of produce. The evils of smoke are very apparent in other localities, and the luxuries of royalty are not exempt from the noxious effluvia given off from the chimney of a brewery in the immediate vicinity of Buckingham Palace. Within the most circumscribed part of the city, no less than seven chimneys, attached to steam-engines belonging to printing establishments, emit the combustible parts of their fuel into New-street-square and the neighbouring districts of Fleet-street and Holborn. The Grove and neighbourhood of Great Guildford-street, in Southwark, have long been the seat of foundries and other establishments, emitting large quantities of smoke from their furnaces, which though not so seriously felt upon the spot, is yet, by particular directions of the wind, driven off to the vicinity of respectable houses. How much, however, the quantity of smoke may be lessened or wholly suppressed, the atmosphere rendered more pure, the cleanliness of the district and the health of its inhabitants assured, is seen in the chimney under which a patent furnace recently invented by Mr. John Jukes is in operation, at the engineering establishment of Messrs. Easton and Amos, at the Grove, which, without the slightest semblance of smoke, affords a singular contrast with the chimneys of other furnaces in the neighbourhood. The neighbourhood of Smithfield, in proximity of St. John-street, affords another such a decided contrast in the chimney attached to one of the furnaces in the stearine-candle manufactory of Messrs. Palmer, in Great Sutton-street, from which not the slightest particle of smoke is emitted, whilst a chimney attached to a brewery (the eighth (along with many others) expel

Smithfield itself is annoyed particularly by the furnaces attached to two distilleries, which, at an early hour in the morning, vomit forth immense volumes of smoke, to the great annoyance of the salesmen and others frequenting it for purposes of business. So anxious are these for its suppression, that a memorial to the Metropolitan Improvement Society was recently got up for its suppression, which would have been extensively signed but for the circumstance that the offending parties are without the pale of the present law, as, had they been within its cognizance, the persons aggrieved had expressed their intention to defray the costs of prosecution.

In my observations upon smoke and its effects, as contrasted between a common furnace or fireplace on the ordinary plans of combustion, and the vapour found in the chimney attached to a furnace of Mr. Jukes's construction (the most perfect of any which I have seen in operation), I am led to the conclusion that it is a very heterogeneous compound. In the state as emitted from the imperfect combustion of coal in the fire-grate, or common furnace, it consists of bituminous and resinous matters, carbon in an uncombined state, carburetted hydrogen, carbonic acid, carbonic oxide, nitrogen and oxygen gases, ammonia, sulphurous acid, sulphuretted hydrogen, water, and probably cyanogen gas, most of which are the results of imperfect combustion. The chief source of the deterioration of the atmosphere, as regards health, from the diffusion of smoke, is probably in the mechanical impurities; as the bituminous and resinous and carbonaceous particles of the coal, which escape combustion from the unequal application of heat. It is these which deface our buildings, soil the skin and clothes, and impede the circulation both in animal and vegetable bodies, by depositing on the skin or cuticle, and impeding its natural action. The action of these mechanical impurities is much greater than is generally considered, by their closing the channels of cutaneous respiration, and their effects upon the large surface of the lungs exposed to their influence. On this point, however, the testimony of medical experience and evidence will be more convincing to the honourable commissioners than my own, although I cannot let it pass without a casual observation. The effects of the sooty particles upon animals and vegetables are in many respects analogous, although the latter suffer most, because animals have the power of cleansing themselves to some extent by their powers of locomotion. The best observers inform me that evergreens suffer most, from the adhesion of the soot to the resinous exudation from their leaves; but nothing perhaps better exhibits the probable effects of this deposit on the animal economy than the instance of daily observation on the wool of sheep as seen in the great contrast of those at Smithfield Market, in the clear wool of those from the uncontaminated atmosphere of the country, as compared with those from the pastures in the neighbourhood of the metropolis, and equally so with those grazing in Hyde Park or Kensington Gardens. The chemical impurities of the atmosphere, although less understood, are probably of equal interest. There can be no doubt but that their diffusion, even in very minute proportions, is productive of injury to the animal economy, from the circumstance of their action upon the delicate fabrics of inorganic substances, as shown in the deterioration of our finest specimens of sculpture and art. Amongst these chemical impurities it is only necessary to allude to the effects of sulphurous acid, ammonia, and sulphuretted hydrogen; and it is certain that the effects assigned to coal smoke, in the purification of the atmosphere, are more than counteracted by these compounds, and others perhaps of more recalcitrant origin. Ammonia, particularly, is a product of some importance, as one of the results of imperfect combustion in rooms or in a limited atmosphere, as were the hydrogen burnt, the nitrogen which enters into combination with it would escape up the chimney uncombined. It is a great source of the destruction of the fine fabrics and elaborate colours, of which some of our finest works of art are constituted. Sulphurous acid gas exists largely in the atmosphere, as may be seen by its action upon test-papers. It also exercises a very powerful action upon works of art, by which the choicest productions of the limner are soon defaced and destroyed. It also acts powerfully